



DNA-based monitoring: BULK SAMPLES versus ENVIRONMENTAL DNA

WHAT is the difference between bulk samples and eDNA?

	Bulk DNA	environmental DNA - eDNA
Definition	<p>Bulk DNA is DNA extracted from the tissue of specimens that have been separated from the sediment/water/substrate by sieving, decantation and manual sorting.</p>  <p>Focus on the (large) animal</p>	<p>Environmental DNA (eDNA) is organismal DNA (bacteria, viruses, plankton) or extra-organismal DNA (skin cells, eggs and sperms, faeces,...) that can be found in the environment.</p>  <p>Focus on free DNA, cells and small floating organisms</p>
Effort to collect a sample	High (trawls, grabs, corers,..)	Low (water, sediment,..)
DNA concentration	High	Low
Geographical precision	GPS location	Range (water) to location (sediment)

HOW do you know what is the BEST APPROACH in a certain case?

Are you aiming for a **full biodiversity assessment**? Then you'll have to combine: a single technique will never give a complete picture.



Do you want an **automated and/or low impact** monitoring? Then eDNA is your best chance.



Trying to find a specific or even **rare species**? eDNA allows you to cover a large area with minimal sampling effort.

Bulk samples = high DNA concentration and a **detailed picture** of the local community. eDNA rather provides a snapshot of a broader geographical range.



Bulk DNA reflects a specific **size fraction**, while eDNA can cover the entire **trophic system!**

We're still figuring a lot of these things out in **trials**. We'll keep you updated on the outcomes!

